عنوان مقاله:

Elimination of hinosan from underground water using polyacrylonitrile/CNT electrospun nanofiber

محل انتشار:

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خلاصه مقاله:

The present study describes the synthesis of a nanosorbent for elimination of hinosan from underground water. The nanosorbent consists of polyacrylonitrile/carbon nanotube (PAN/CNT) nanofiber with high extraction capacity and good capacity for adsorption of hinosan was prepared in a single fluid solution and synthesized through electrospinning strategy. The nanosorbent was characterized using Fourier transform infrared spectroscopy (FT-IR), scanning electron microscopy (SEM) and transmission electron microscopy (TEM), and the quantification of hinosan was carried out by gas chromatography-electron capture detector (GC-ECD).To achieve maximum extraction performance, the influential parameters on the extraction efficiency were surveyed. Kinetic of adsorption was studied, and Langmuir and Freundlich's models were applied to describe the characteristics of adsorption behavior. The equilibrium data were well fitted to the Langmuir isotherm model and based on the Langmuir isotherm model; the maximum adsorption capacity is 88.35mg/g. Based on the kinetics investigation, it was found that the data were well fitted with the pseudo-second-order kinetic.

کلمات کلیدی:

Electrospinning, Adsorption, Polyacrylonitrile/CNT nanofiber, Hinosan.

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